

REMARKS

Claims 1-12 are active in the application. The undersigned notes with appreciation that claim 3 has previously been identified as being drawn to allowable subject matter.

Claim 1 has been amended to more distinctly claim the present invention. Specifically, claim 1 has been amended to require that the interaction sequences can be initiated by the user out-of-turn. This recited feature is supported by the specification at page 6, lines 27-page 7, line 7, page 11, lines 12-16, and page 13, lines 20-28.

Claim 12 has been amended to be dependent on claim 1 instead of claim 7. This amendment corrects a typographical error.

Claims 1-2, and 4-12 were rejected under 35 USC 102(e) as being anticipated by international patent WO 01/68368 A3 to Schmidt-Joos et al. This rejection is traversed.

There are at least 3 major differences between the present invention and the teachings of Schmidt-Joos:

1) Schmidt-Joos is concerned with editing images and text for printing, and preventing unwanted alterations to the file being edited. The present invention is concerned with allowing out of turn information seeking, and mixed initiative interaction. There is no information-seeking or interaction in Schmidt-Joos.

2) Schmidt-Joos does not alter a computer program. Schmidt-Joos only alters the printing file (non-executable instructions). The present invention simplifies the computer program (executable instructions) in response to the partial evaluation.

3) The present invention generates a personalized information space. Schmidt-Joos generates a personalized printing pattern. The printing pattern of Schmidt-Joos is not an information space. An information space is necessarily navigable and linked, like a collection of web pages. (e.g. an 'information space' is a collection of hyperlinked web pages, voice menus or information kiosks; See page 8, lines 1-10).

As explained in the present specification, the present invention provides a method for personalizing information seeking. The information seeking may relate to finding products or services, or may relate to very specific facts about specific topics. In the present invention, partial evaluation is performed while a user is seeking information, and

the partial evaluation of submitted information allows for the unique personalization capabilities of the present invention. The partial evaluation occurs when a user specifies a topic of interest or narrows a search field. The partial evaluation of the invention is used to simplify a computer program (executable computer instructions). And the simplified
 5 computer program is then used to generate a personalized information space (e.g. collection of web pages). Since partial evaluation is performed, and since the computer program comprising executable instructions is altered by the partial evaluation, the present invention allows *out-of-turn* queries and interactions (see pages 4-5 and page 13, lines 17-22). The out-of-turn query capability provides substantial benefits in the
 10 invention in that it allows a user to find information rapidly and with less frustration and fewer forced information submissions (see pages 5-6).

These features and benefits of the invention are reflected in the language of claim 1. Specifically, claim 1 requires the steps of “partial evaluation of the computer program to produce a simplified program” and “generating a personalized information
 15 space...from the simplified program”. These two limitations provide the most important and key features of the present invention identified above. Specifically, the partial evaluation and computer program simplification steps allow for out-of-turn queries. The step of “generating a personalized information space” presents the result of the out-of-turn query or other submitted information to the user in a navigable manner.

20 The simplification step can remove inapplicable or moot information from consideration (see page 10, lines 22-26).

The teachings of Schmidt-Joos are very different from the present invention. Schmidt-Joos does not teach or suggest out-of-turn query or interaction capability. Schmidt-Joos also does not teach or suggest simplification (or any alteration) of a
 25 computer program comprising executable instructions. Finally, Schmidt-Joos does not teach or suggest generating a personalized information space. All of these features are required in amended claim 1.

Schmidt-Joos instead teaches a printable document having an intelligent document format that prevents accidental or unwanted design alterations (see 0005, 0006
 30 0013, and 0084). Schmidt-Joos provides a document with ‘preset design patterns’ (0011) that provide preservation of present quality standards. This allows a client to alter content

in the printable document (e.g. text, pictures) without altering the present design pattern necessary for quality printing. This is very different from the present invention. Schmidt-Joos has no need for out-of-turn interaction and does not provide for out-of-turn interaction. Schmidt-Joos has no need to alter executable instructions (i.e. a computer program). Hence, Schmidt-Joos does not meet claim 1 and the rejection of claim 1 should therefore be withdrawn.

Template technology (0018) is the purview of Schmidt-Joos. A template is a slot and filler structure, with some fields filled in, some fields blank. As more and more fields get filled by the client, the document becomes more and more complete. Certain fields that cannot change are locked in the document and cannot be altered by the client. The document of Schmidt-Joos does not “programmatically represent interaction sequences” as required by the present invention. Schmidt-Joos merely provides a template with certain portions (“content”) that can be varied by a client, and certain portions (“centrally preset design patterns”) that are fixed.

Also, it is noted that Schmidt-Joos does not teach or suggest the step of simplifying a computer program, as required in the present invention. A “computer program” consists of computer-executable instructions. Schmidt-Joos does not teach or suggest any simplification or alteration of computer executable instructions. Schmidt-Joos only teaches alteration of a printable document, which does not comprise a computer program (i.e. executable instructions). Sections 0010, 0083, and 0079, and step 13, Fig. 1 were identified as teaching production of a simplified computer program. However, this is in error. Section 0010 does not teach or suggest alteration or simplification of a computer program. Section 0079 teaches that the templates can have a number of design variants. Section 0083 teaches how to generate design variants from a given template. Wholly absent from Schmidt-Joos is any teaching or suggestion to produce a simplified computer program (executable instructions) by partial evaluation. Hence, Schmidt-Joos does not meet this limitation of claim 1 and the rejections should therefore be withdrawn for this additional reason.

The Office Action asserts that Schmidt-Joos teaches the generation of an information space in sections 0028, 0092 and 0096. However, these sections merely teach that templates can be associated and organized into hierarchies. The templates can have

replaceable text (0092), which can have fixed or variable print characteristics (e.g. color, font). It is also possible to generate design variants for the templates. None of these section teach or suggest generation of a personalized information space from the simplified program. In Schmidt-Joos, the user determines the template and arranges the
5 template designs. In the present invention, the personalized information space is generated by the computer program. Hence, Schmidt-Joos does not meet the limitations of claim 1 for this additional reason.

In conclusion, it is noted that Schmidt-Joos employs an old and well known relationship between templates and partial evaluation. The relationship employed in
10 Schmidt Joos is familiar to any computer scientist. Specifically, conventionally, and in Schmidt-Joos, a template and some fields with known answers are given. Partial evaluation of such a template in the conventional sense will simply fill in these fields and leave the remaining fields unfilled, resulting in a specialized template. This much is well known in the art.

15 By comparison, in the present invention, partial evaluation is used to enable out-of turn user interaction. Specifically, this is accomplished by producing the simplified program, and then generating a personalized information space from the simplified program. Partial evaluation for mixed-initiative interaction is the key to achieving the unique benefits of the present invention. It is novel and unobvious to use partial
20 evaluation to simplify a computer program that then generates an information space.

The Office Action states that Schmidt-Joos (0009) anticipates "modeling information-seeking interaction sequences where each sequence denotes a possible dialog between the user and information system". This is incorrect, the word "dialog" in Schmidt-Joos does not model interaction sequences and is simply a one-step interaction
25 to fill the templates. The present dialogs are multi-step, can have in-turn as well as out-of-turn inputs, can be system-initiated, user-initiated, or mixed-initiative.

The Office Action states that that Schmidt-Joos (0012, 0069) anticipates "programmatically representing interaction sequences in a computer program". This is incorrect. Schmidt-Joos do not model interaction sequences in a program. Schmidt-Joos
30 merely show how layout is abstracted into a template.

The Office Action asserts that Schmidt-Joos anticipates claim 2 in section 0043. This is incorrect. Section 0043 merely teaches a computer program for producing templates, not that they are modeling an information space or an information activity in a computer program. Nowhere does Schmidt-Joos teach modeling an information space or an information activity in a computer program.

The Office Action asserts that Schmidt-Joos anticipates claim 4 in section 0025. This is incorrect. Nowhere does Schmidt-Joos teach compacting interaction sequences to determine a new set of interaction sequences, or teach compaction generally.

The Office Action asserts that Schmidt-Joos anticipates claim 5 in sections 0020 and 0089. This is incorrect. Although the phrase “partial evaluation” is utilized in 0020, it is not used to support personalized interaction as in the present invention. It is used for template configuration (see discussion above).

The Office Action asserts that Schmidt-Joos anticipates claim 6 in sections 0086 and 0090. This is incorrect. These sections describe how a printing pattern is previewed by the user using a web browser; they do not describe the generation of a personalized information space.

The Office Action asserts that Schmidt-Joos anticipates claim 7 in section 0086. This is incorrect. The web browser in Schmidt-Joos is utilized to preview a pattern before it is finalized for printing, whereas a web browser is utilized for interacting with an information space in the present invention.

The Office Action asserts that Schmidt-Joos anticipates claim 8 in section 0016. This is incorrect. The browser in [0016] does not display an information space, and it does not facilitate input via a partial input specification window.

The Office Action asserts that Schmidt-Joos anticipates claim 9 in sections 0016 and 0028. This is incorrect. Section [0028] anticipates a hierarchy of templates (for organization purposes) only one of which is used at any time, whereas the present invention posits a hierarchy of web pages that are being interacted with, together, as a collection.

The Office Action asserts that Schmidt-Joos anticipates claim 10 in section 0016. This is incorrect. The server and client do not correspond to the “first” and “second” window. The client is the means by which a user interacts and the server is the system

that is "behind the scenes", invisible to the user and inaccessible for direct interaction. In our invention, both windows are accessible to the user for interaction (and hence together constitute the "client").

The Office Action asserts that Schmidt-Joos anticipates claim 11 in section 0020.
5 This is incorrect. Schmidt-Joos is referring to the partial evaluation of templates, not partial evaluation of computer programs.

The Office Action asserts that Schmidt-Joos anticipates claim 12 in steps 12, 14-15, Fig. 1, and corresponding text. This is incorrect. These portions of Schmidt-Joos are referring to templates in printing technology, not information-seeking aspects to be used
10 in a personalized interaction.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 1-12 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone
15 number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees for
20 the petition or for entry of this amendment to Attorney's Deposit Account No. 50-2041 (Whitham, Curtis & Christofferson P.C.).

Respectfully submitted,



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